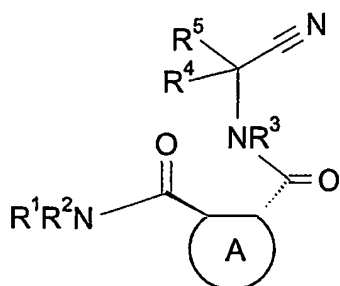


## CLAIMS

1. Use of a compound of formula (I):



(I)

- 10 in which:

A is a 6-membered ring optionally containing a double bond and optionally containing an oxygen atom or NR group in the ring;

R is hydrogen or C<sub>1-6</sub> alkyl;

15

R<sup>1</sup> and R<sup>2</sup> are independently, C<sub>1-6</sub> alkyl or C<sub>3-6</sub> cycloalkyl both of which can optionally contain one or more O, S or NR<sup>3</sup> groups, or R<sup>1</sup> and R<sup>2</sup> together with the nitrogen atom to which they are attached form a 3,4-dihydroisoquinoline ring or a 5- or 6-membered saturated ring optionally containing a further O, S or N atom and optionally substituted by a group -(CH<sub>2</sub>)<sub>p</sub>-R<sup>6</sup> where p is 0 to 3 and R<sup>6</sup> is C<sub>1-6</sub> alkyl, CONR<sup>7</sup>R<sup>8</sup> where R<sup>7</sup> and R<sup>8</sup> are independently hydrogen, C<sub>1-6</sub> alkyl which can optionally contain one or more O, S or NR<sup>3</sup> groups, or together with the nitrogen atom to which they are attached form a 5- or 6-membered saturated ring optionally containing a further O, S or NR<sup>3</sup> group;

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or R<sup>6</sup> is a 4 to 7-membered saturated ring optionally containing one or more O, S or N atoms, or an aryl or heteroaryl group containing one to four heteroatoms selected from O, S or N, the saturated ring, aryl and heteroaryl groups all being optionally substituted by halogen, amino, hydroxy, cyano, nitro, carboxy, CONR<sup>7</sup>R<sup>8</sup>, SO<sub>2</sub>NR<sup>7</sup>R<sup>8</sup>, SO<sub>2</sub>R<sup>3</sup>, trifluoromethyl, NHSO<sub>2</sub>R<sup>3</sup>, NHCOR<sup>3</sup>, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, SR<sup>3</sup> or NR<sup>9</sup>R<sup>10</sup> where R<sup>9</sup> and R<sup>10</sup> are independently hydrogen, C<sub>1-6</sub> alkyl or together with the nitrogen atom to which they are attached form a 5- or 6-membered saturated ring optionally containing a further O, S or NR<sup>3</sup> group;

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R<sup>3</sup> is hydrogen or C<sub>1-6</sub> alkyl;

R<sup>4</sup> is hydrogen or C<sub>1-6</sub> alkyl;

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R<sup>5</sup> is hydrogen, C<sub>1-6</sub> alkyl or C<sub>3-6</sub> cycloalkyl both of which can optionally contain one or more O, S or NR<sup>3</sup> groups or R<sup>5</sup> is aryl or a 5- or 6-membered heteroaryl group containing one or two heteroatoms selected from O, S or N, the aryl and heteroaryl groups all being optionally substituted by halogen, amino, hydroxy, cyano, nitro, carboxy, CONR<sup>7</sup>R<sup>8</sup>,  
10 SO<sub>2</sub>NR<sup>7</sup>R<sup>8</sup>, SO<sub>2</sub>R<sup>3</sup>, trifluoromethyl, NHSO<sub>2</sub>R<sup>3</sup>, NHCOR<sup>3</sup>, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, SR<sup>3</sup> or NR<sup>9</sup>R<sup>10</sup> where R<sup>9</sup> and R<sup>10</sup> are independently hydrogen, C<sub>1-6</sub> alkyl or together with the nitrogen atom to which they are attached form a 5- or 6-membered saturated ring optionally containing a further O, S or NR<sup>3</sup> group;

15 or R<sup>4</sup> and R<sup>5</sup> together form a 5- or 6-membered saturated ring optionally containing a further O, S or NR<sup>3</sup> group and optionally substituted by , C<sub>1-6</sub> alkyl;

and pharmaceutically acceptable salts or solvates thereof, in the manufacture of a medicament for use in the inhibition of Cathepsin S in a warm blooded animal, such as  
20 man.

2. Use according to claim 1 in which A is a cyclohexane ring.

3. Use according to claim 1 or 2 in which R<sup>1</sup> and R<sup>2</sup> together with the nitrogen atom to  
25 which they are attached form an unsubstituted morpholine ring or a piperidine ring substituted by a group -(CH<sub>2</sub>)<sub>p</sub>-R<sup>6</sup> where p and R<sup>6</sup> are as defined in claim 1

4. Use according to any one of claims 1 to 3 in which R<sup>3</sup> is hydrogen.

30 5. Use according to any one of claims 1 to 4 in which R<sup>4</sup> is hydrogen.

6. Use according to any one of claims 1 to 5 in which R<sup>5</sup> is hydrogen or phenyl optionally substituted by C<sub>1-6</sub> alkyl or C<sub>1-6</sub> alkoxy.

35 7. Use according to any one of claims 1 to 6 where the compound of formula (I) is selected from:

- (1R,2R)-N-[Cyano(2-methoxyphenyl)methyl]-2-(morpholin-4-ylcarbonyl)cyclohexanecarboxamide,  
(1R,2R)-N-[Cyano(2-methoxyphenyl)methyl]-2-[[4-(4-fluorobenzyl)piperazin-1-yl]carbonyl]cyclohexane carboxamide,  
5 (1R,2R)-N-[Cyano(2-methoxyphenyl)methyl]-2-(3,4-dihydroisoquinolin-2(1H)-ylcarbonyl)cyclohexane carboxamide,  
(±) Trans-N-(cyanomethyl)-2-[[4-(4-fluorobenzyl)piperazin-1-yl]carbonyl]cyclohexanecarboxamide,  
(±) Trans-N-[cyano(2-methoxyphenyl)methyl]-2-[(4-methylpiperazin-1-yl)carbonyl]cyclohexanecarboxamide,  
10 (1R,2R)-N-[Cyano(2-methoxyphenyl)methyl]-2-[[4-(4-fluorophenyl)piperazin-1-yl]carbonyl]cyclohexane carboxamide,  
(1R,2R)-N-(4-Cyano-1-methylpiperidin-4-yl)-2-[[4-(4-fluorophenyl)piperazin-1-yl]carbonyl]cyclohexane carboxamide,  
15 and pharmaceutically acceptable salts thereof.
8. A compound of formula (I) as defined in any one of claims 1 to 7 for use in therapy.
9. A pharmaceutical composition which comprises a compound of the formula (I) as  
20 defined in any one of claims 1 to 7 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable diluent or carrier.
10. A method for producing inhibition of a cysteine protease in a mammal, such as man, in need of such treatment, which comprises administering to said mammal an effective  
25 amount of a compound of the present invention as defined in any one of claims 1 to 7, or a pharmaceutically acceptable salt thereof.
11. A method for producing inhibition of a cysteine protease in a mammal, such as man, in need of such treatment, which comprises administering to said mammal an effective  
30 amount of a compound as defined in any one of claims 1 to 7, or a pharmaceutically acceptable salt thereof.

12. A method for treating pain, such as neuropathic pain, in a mammal, such as man, in need of such treatment, which comprises administering to said mammal an effective amount of a compound as defined in any one of claims 1 to 7, or a pharmaceutically acceptable salt thereof.